CLIMATE ACTION NOW !
ENSEMBLE POUR LE CLIMAT !

An Invitation to
create a community of leaders
who accelerate and scale climate action

Turn recording on!

Nous rendons hommage au peuple algonquin, gardien traditionnel de cette terre. Nous reconnaissons le lien sacré de longue date l'unissant à ce territoire, qui demeure non cédé.

Nous rendons également hommage à toutes les personnes autochtones qui habitent Ottawa, qu'elles soient de la région ou d'ailleurs au Canada.

Nous reconnaissons les gardiennes et gardiens des savoirs traditionnels de tous âges. Nous honorons aussi leurs dirigeantes et dirigeants d'hier, d'aujourd'hui et de demain, au courage indéniable.

We pay respect to the Algonquin people, who are the traditional guardians of this land. We acknowledge their longstanding relationship with this territory, which remains unceded.

We pay respect to all Indigenous people in this region, from all nations across Canada, who call Ottawa home.

We acknowledge the traditional knowledge keepers, both young and old. And we honour their courageous leaders: past, present and future.

Ni manàdjiyànànig Màmìwininì Anishinàbeg, ogog kà nàgadawàbandadjig iyo akì eko weshkad. Ako nongom egawìkàd kì mìgiwewàdj.
Ni manàdjiyànànig kakina Anishinàbeg ondaje kaye ogog kakina eniyagizidjig enigokamigàg Kanadàng eji ondàpinangig endàwàdjin Odàwàng.
Ninisidawinawànànig kenawendamòdjig kije kikenindamàwin; weshkinìgidjig kaye kejeyàdizidjig.
Nigijeweninmànànig ogog kà nìgànì sòngideyedjig; weshkad, nongom; kaye àyànikàdj.

Agenda

Welcome

Summary of submitted proposal

Time Line for SSHRC decisions

Launch activities:

- Requirement analysis
- Minimal Viable Product for the Community of Practice (incl. Knowledge Exchange and Co-Ideation Platform)
- Conferences and events
- Potential immediate projects
- Student engagement

Discussion: Do we need to set specific GHGE reduction targets? How would we do that?

Goal

Accelerate and Scale Climate Action

Note:
We are starting Climate Action Now!
because what we have been doing so far is not working well enough.
Our job is to try something new, learn, iterate, improve, persist, succeed

Goal

Accelerate and Scale Climate Action

Approach

There is time to act. The time is now.

We propose:

That the past lack of implementation of climate action is not due to a lack of technological progress, but is due to the lack of pathways to integrate, accelerate and scale solutions across business and society

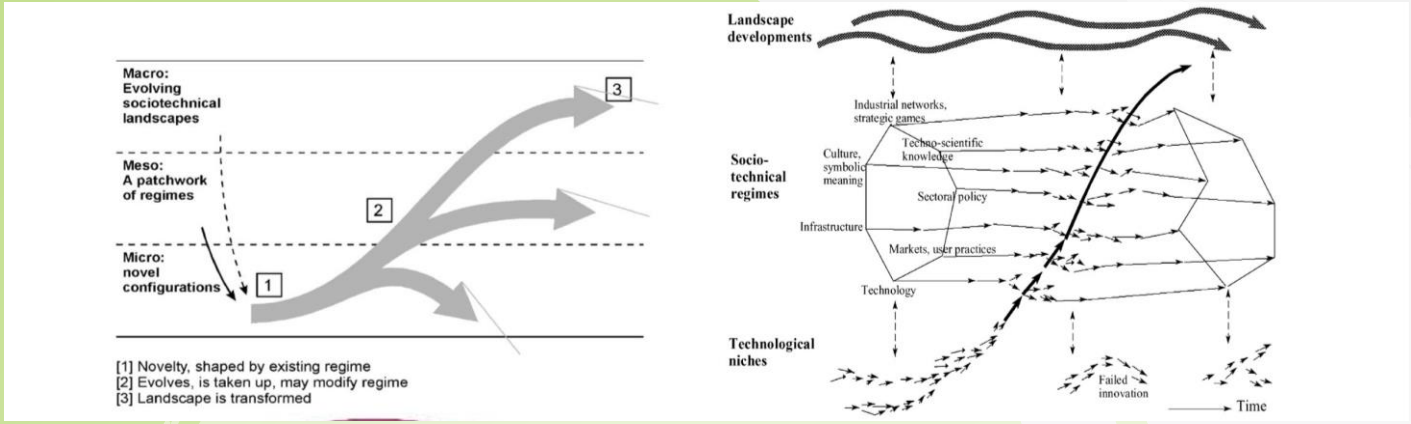
- **Business / social sciences expertise**

That digital (including AI) advances and increased consideration of individuals in their diverse and sometimes conflicting personal and professional roles as consumer, producer, citizen, parent, etc. can serve to develop new pathways for solutions

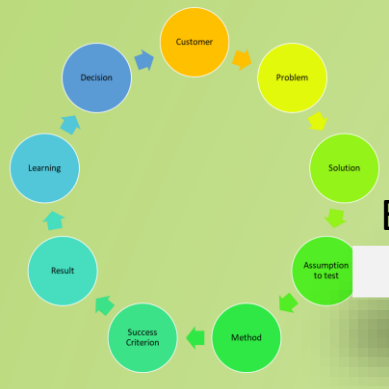
- **Digital capacity**

Industry-led
Community-involved
Digitally-enabled

For those who need theory



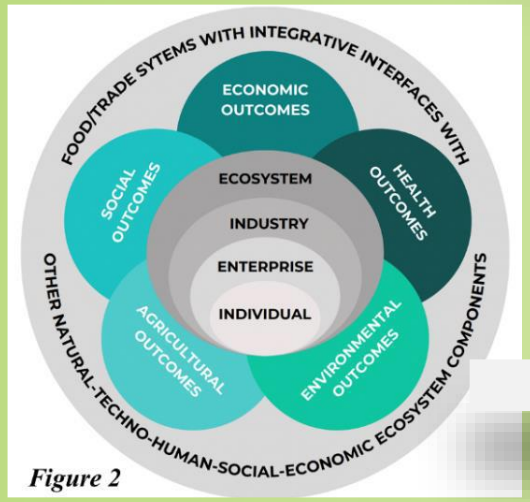
Kemp et al., Geels



Entrepreneurial Customer Validation

Technological niches assume distributed “experiments”, diversity in approaches: top-down is unlikely to succeed

Paths to regime / landscape changes:
agency through behavioural, digital expertise



Whole of Person in Society

Responsible Research and Innovation:
anticipation, reflexivity, inclusion and responsiveness

Convergence Science / Innovation
Innovation Systems

Ecosystem Approach

Industry-led
Community-involved
Digitally-enabled

Co-create new approaches to climate action and increase opportunities for sustained global competitiveness

Implementation Partner	Ecosystem Enabler	Community Catalyst	Research / Knowledge / Technology Contributor	Advisor
Implement climate actions to reduce greenhouse gasses	Connect and support implementation partners	Ensure community needs are addressed	Collaborate to address needs of partners	Support and advise

SSHRC LOI STAGE, FEB 2024

Principal Applicant: Sandra Schillo, uOttawa
Co-Directors:
Claudia De Fuentes, Saint Mary's U; Sylvie Cloutier, CTAQ; David Audretsch, Indiana U; Laurette Dubé, McGill;; Kyle Bobiwash, U Manitoba

WE COVER THE ENTIRE AGRICULTURE AND FOOD SYSTEM ALREADY

FOCUS ON AGRICULTURE AND FOOD

Almost 100 (86+) co-applicants and collaborators from over 40 organizations across Canada and around the world

Potential additional partners: Efficiency Manitoba, Fraunhofer ISI, PIC Supercluster, Simon Fraser University, Food & Beverage Manitoba etc.

PARTNERS
(CONFIRMED)

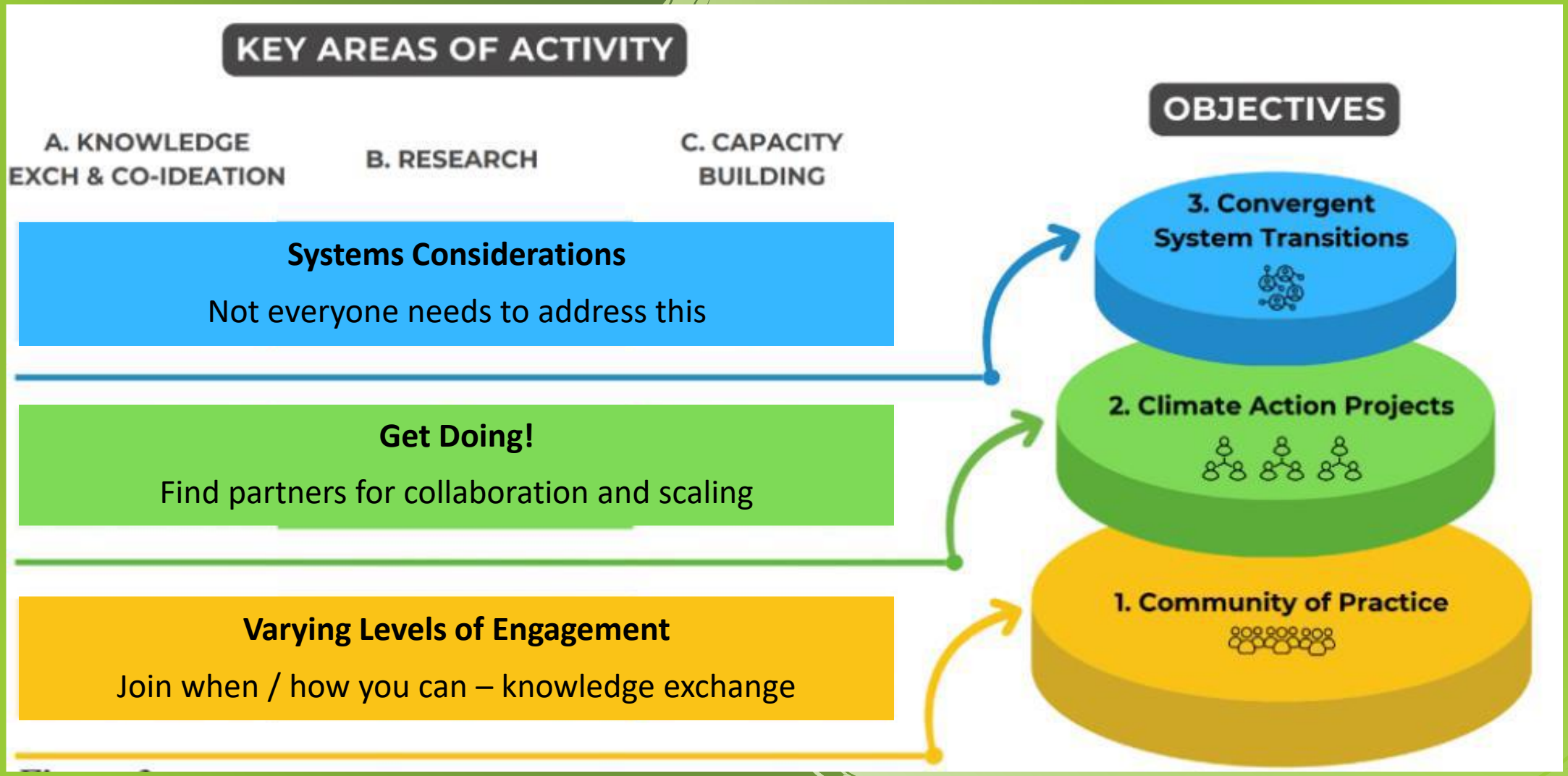
UNIVERSITIES
- University of Ottawa
- U Manitoba
- McGill
- St. Mary's

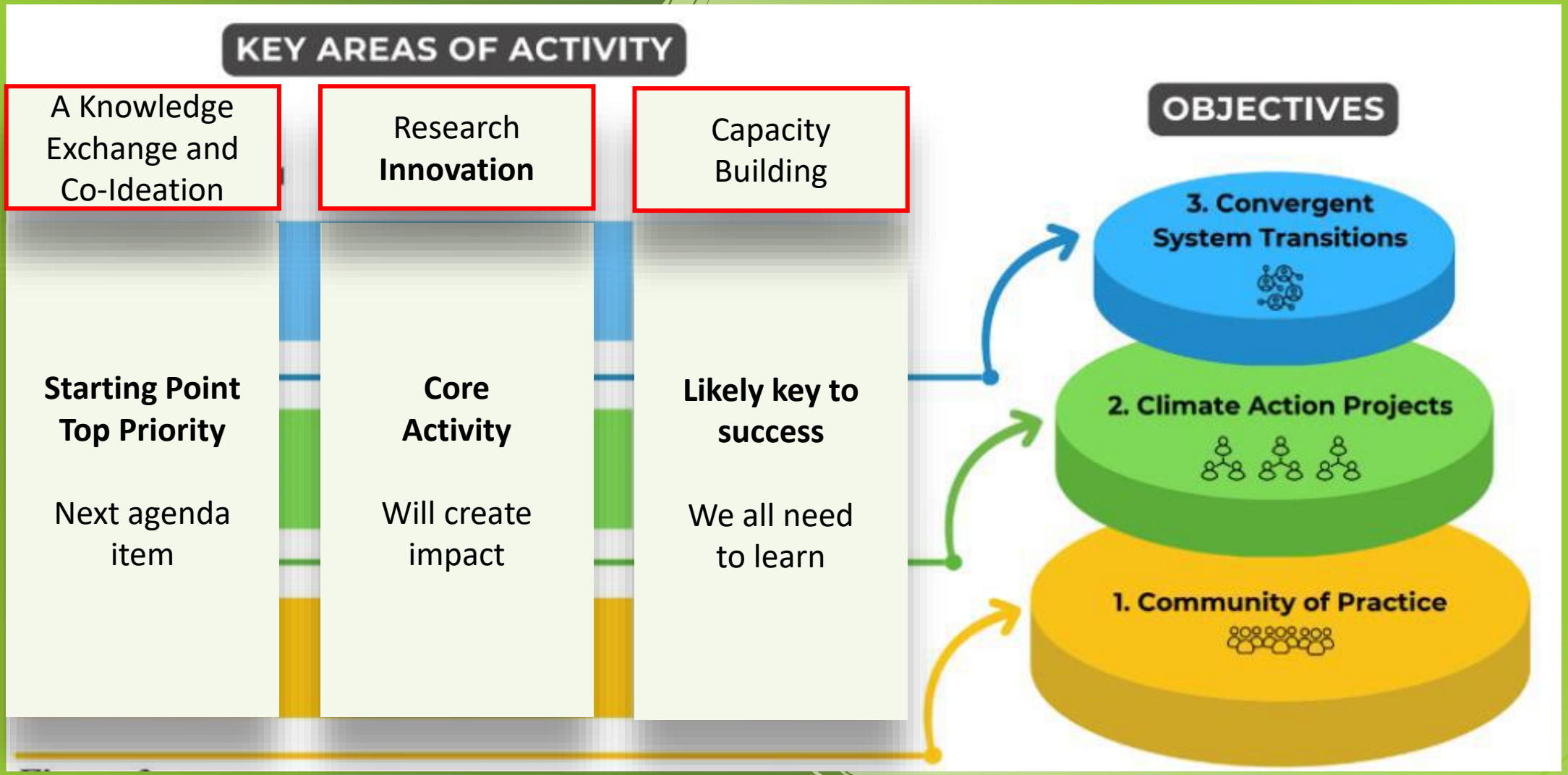
RESEARCH NETWORKS
- NACLICS
- SEEDS

TECHNOLOGY PROVIDERS
- Bivizio
- DFFRNT
- nutriScope
- Plannica
- Ubuntoo

ENABLERS
- AAFC ACS Living Labs
- Cando
- Collectif Recolte
- CTAQ
- EMILI
- Farm Credit Canada
- Food & Beverage Atlantic
- GS1
- Halcyon
- IC-Foods
- Inclusive Innovation Hub
- Ingenium
- Inno-Centre
- Institute of the Environment, UC Davis
- National Index on Agri-Food Performance
- Smart Prosperity Institute
- TCS (Tata Consultancy)
- The/La Collaborative
- Vineland Research and Innovation Centre

WITH SCALE COMES THE CHALLENGE OF ORGANIZATION




KEY AREAS OF ACTIVITY
A Knowledge Exchange and Co-Ideation
Research **Innovation**
Capacity Building
Starting Point Top Priority
Next agenda item
Core Activity
Will create impact
Likely key to success
We all need to learn
OBJECTIVES
3. Convergent System Transitions
2. Climate Action Projects
1. Community of Practice

RESEARCH / INNOVATION

IMMENSE POTENTIAL

B. Research

Lead: Audretsch, Dubé.

Research projects will be identified, prioritized, monitored and evaluated using KECI engagement and following governance processes outlined below. We aim to add many partners and projects in this section.

B.1. Research enabling the Community of Practice

Partners: Ubuntoo, IC-Foods, UC Davis, DFFRNT.

In the first year a set of immediate research projects will adapt earlier work to the purposes of CAN!: a) adapting an LLM (large language model) based AI tool to climate action in the food system (Ubuntoo); b) building on food ontologies to prototype a knowledge visualization tool for climate action in the food system (IC Foods, UC Davis, Hsiao, Dooley). Emerging research projects and questions may include: c) mapping and analysis of climate action initiatives and partnerships (De Fuentes); d) mapping of community practices (also Indigenous) onto climate action initiatives (Bobiwash); e) understanding equity implications of climate action for marginalized communities (NACLICS, De Fuentes); f) analyzing supply chain (Plannica, Hajmohammad, Boz); g) greening global value chains (Rabelotti, Lema); h) designing Multi-Criteria Decision Models for prioritization and inclusiveness (Ben Amor); i) building digital capacity across community of practice and partner's networks (Audretsch, Belitski); j) exploring the role of digital transformation, use of data on the implementation of tools that are needed to achieve climate action (Sustatability); k) stakeholder perspectives and requirements for climate action (DFFRNT).

B.2. Research supporting Collaborative Climate Action Projects

Partners: Farm Credit Canada*, GS1*, CTAQ*, FBA*, FBM*, FBC*, Bivizio*, Plannica*, nutriScope*, Halcyon*, MCCHE*, Vineland Research and Innovation Centre, Ingenium [*: collaborators on MiXR].

This research theme has a flagship project, “MiXR”, started during the COVID disruptions, but proposed here to be adapted to climate action purposes with additional partners: The Food and Beverage Associations across Canada (including CTAQ, FBA, FBM, FBC), in collaboration with MCCHE (McGill, Dubé) and Telfer (uOttawa, Schillo) and technology suppliers Bivizio and Plannica have developed a digital platform for Food and Beverage processors across Canada, supported by almost $3M from the Protein Industries Canada Supercluster. This platform will serve for collaboration of these partners and FCC, GS1, nutriScope and Halcyon. Together, they aim to implement product and ingredient-level features for tracing GHGE from production to retail. The goal is to equip the sector, especially small and medium-sized businesses, with the knowledge and practices needed to manage their Environmental, Social and Governance (ESG) performance. Combined, the proponents already reach the entire agriculture and food ecosystem, including farmers (especially through FCC), food processors (through MiXR / Food and Beverage Associations), and distribution, including reach to consumers (especially through GS1).

Other key projects for immediate action include: a) expansion of the DISH platform (Kwofie, Ingenium). DISH is a dashboard for improving sustainable healthy food choices. It is important to recognize that consumers’ diet and their food choices have significant consequence on health and environment with unintended economic implications (Abe-Inge et al., 2024). There is evidence that dietary change in high-income nations alone can lead to a substantial double climate dividend. Considering that consumers are the largest stakeholders in the food value chain, their involvement in the fight for sustainable and healthy diet is essential for any anticipated success. However, easy-to-use systems and accessible tools for assessing health and sustainability of our food choices are lacking. To address this need, DISH has been designed to transform the Canadian food system by providing stakeholders, particularly consumers, with a comprehensive toolbox to determine the health and sustainability impact of the foods they choose to consume; b) techno-eco-environmental optimization of pea-protein processing and starch: In this project, we are conducting an environmental and economic sustainability assessment of pea protein extraction, focusing on the sustainability implications for pretreatment technologies, starch utilization pathways and product-process efficiency trade-off assessment (quality, environmental impact, and cost); c) industrial eco-efficiency assessments for improving sustainability outlook of livestock feed additives production and use. In this project, we are quantifying the environmental impacts of the production of livestock feed additives, modeling the environmental mitigation potential of substitute inputs for additive production, and estimating the environmental impact reduction from the application of the feed additives on farms.

Additional emerging research may include: d) analyzing main barriers and drivers for climate action adoption in developed and emerging economies (De Fuentes); e) analyzing the role of small-scale fishery and agricultural producers, and access issues, including to climate response measures (Charles, FAO, SSFPA); f) natural language processing tools for climate action (Nie, Inkpen, Dooley, Hsiao).

B.3. Research driving Convergent Climate System Transitions

Partners: NIAP, Ingenium, SPI, McGill MCCHE.

Work in this area will progress from immediate projects focused on building the digital infrastructure enabling systems transitions, to an additional focus on the dynamics of such transitions.

Immediate Research Projects include: a) The National Index on Agri-Food Performance (NIAP coalition; agrifoodindex.ca) was published as a pilot initiative in May 2023 and recently got funding from AAFC (Agriculture & Agri-food Canada-Insurance division). This index integrates 20 indicators and approximately 130 metrics, taking a comprehensive approach to sustainability, encompassing environmental considerations, food safety, economic factors, and societal well-being. An unprecedented and diverse private-public academic coalition of 136 partners has developed Canada's first agri-food sustainability index over the last decade, and work under CAN! aims to advance its integration into managerial decision-making; b) Syntheco is a platform designed by MCCHE and collaborators (incl. Aunio, Paquette) to better understand the commercial and societal drivers and consequences of consumer decisions in context. The multi-level digital ecosystem contains a statistically representative, geo-located synthetic population in which individuals are characterized with respect to socio-demographic, financial, behavioral, psychosocial, and environmental attributes using a range of data sources including cohorts and cross-sectional surveys, census, loyalty programs and geolocated business information. It allows stakeholders to consider the local availability, diversity, and accessibility to a range of food outlets and their behavioral and health correlates, while considering a variety of moderating influences. Under CAN! we will integrate climate modelling into the Syntheco; c) Building on the Common Impact Data Standard and evaluation expertise, we will develop the monitoring and evaluation frameworks to model the link between CAN! activities and climate action transitions across the food system (Boz, Gajderowicz).

Emerging research projects may include: d) analysis of green windows of opportunity in systems transitions (Lema, Rabelotti); e) analysis of fit between targeted funding models and capacity to participate in climate transition projects (Bobiwash); f) multi-level governance of performance indicators; g) ontology-based monitoring of system transitions (Dooley, Hsiao, IC-Foods, Huber, Hollander); h) data-inherent digital affordances (MCCHE); i) governance for climate transitions, including as related to data, platforms, collaborations (Schillo).

RESEARCH / INNOVATION

There are many other initiatives, organizations, individuals we need to connect with
to achieve a scale that is relevant
- compared to the global climate challenge

Governance

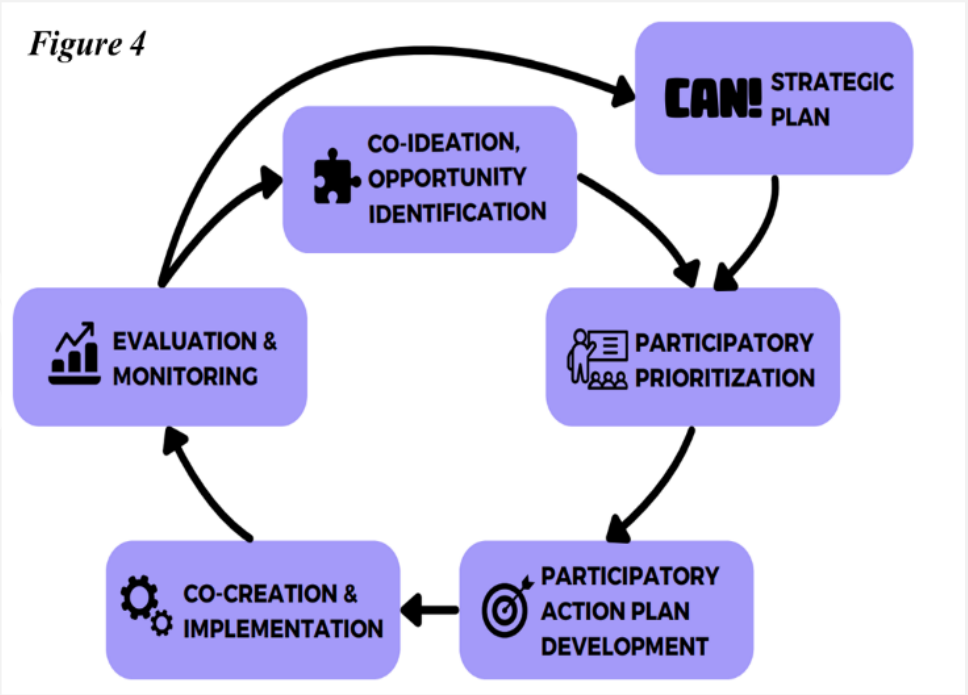


Figure 4
CAN! STRATEGIC PLAN
CO-IDEATION, OPPORTUNITY IDENTIFICATION
PARTICIPATORY PRIORITIZATION
PARTICIPATORY ACTION PLAN DEVELOPMENT
CO-CREATION & IMPLEMENTATION
EVALUATION & MONITORING

FROM SSHRC Proposal

Written to meet SSHRC expectations.

Not sure this is adequate for a project of this scale.

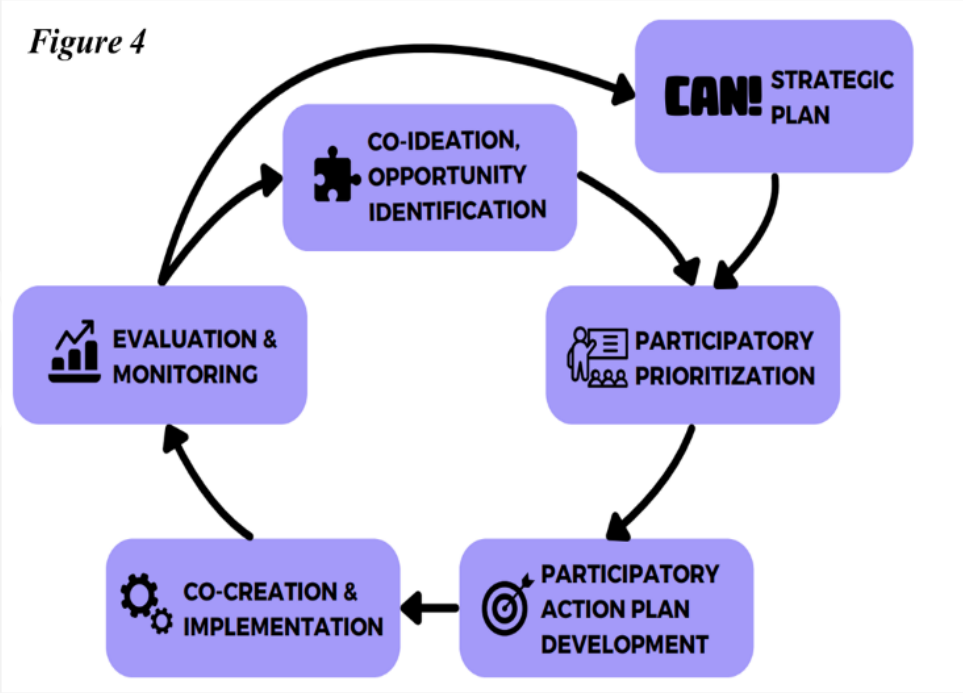
- The strategic and high-level leadership of the structure will be provided by an **Advisory Council (AC),** meeting twice a year. It will involve senior partner representatives, one from each of the partnership stakeholders (Industry, Community, Tech Providers, Ecosystem Enablers, Researchers) to identify and prioritize emerging opportunities, give direction on research and knowledge exchange, provide guidance for strategic planning, offer oversight and advice, and activate additional resources as required.
- The operational leadership and oversight will be provided by the **Steering Committee (SC).** Within the AC's guidance, the SC ensures integrity in the KECI, Research and Capacity Building activities, approves senior personnel decisions (Secretariat), reviews budgets and spending, approves the 3-year rolling strategic plan, and champions the partnership's development. The SC meets monthly and is composed of the Project Director and Co-Directors, representatives from each partner group and students / trainees.
- A small **Secretariat** will support the work of the AC and SC, and knowledge dissemination between the modular work teams. Its functions will include coordination, financial (with uOttawa), communications (internal, external), fundraising, and knowledge exchange support: Organizing events (online, live), producing communication materials (reports, briefs, videos), managing the web site, and engaging media (social, traditional). It will be led by the Project Director, be housed within CSIID (Telfer) and share resources (including experienced staff) with the ISSP and the Institute for the Environment (uOttawa).

Assumptions

We cannot solve complex societal challenges with small groups of actors, nor with the expertise that created the challenges in the first place. Governance and project management has to be inclusive.

CAN! has to be modular to permit scaling and acceleration
(i.e. top down will not permit sufficient growth).

Project Management and Governance has to be reflexive, iterative.



Also:
Accountability to Community (technically the planet)

We have an ambitious goal.
Most likely, everyone is going to be uncomfortable with something at some point.

Volunteers?

Asks

1. Have Patience with Discomfort / Allow for Mistakes

   If our usual methods worked, we would not be here.
   We will need to adapt and experiment not only within our work, but also in project management.
   If you see opportunities for improvement, please let us know.
   If something does not work you, please let us know.
   If we make mistakes, let's collaborate to fix them.

2. Champion Other Stakeholders, too

   System transitions need to work for all stakeholders.
   Each of you are joining from a specific stakeholder perspective, both individually and as organizations.
   Please make sure Climate Action Now! will work for your – make suggestions if it does not.
   Please also champion others. We have a very diverse team, but let's not put it onto our "diverse" colleagues to champion their communities.
   If we mess up with inclusiveness: Please let us know.
   If I am the one messing up: Feel free to let Chancellor Commanda know.

Questions / Suggestions?

Let’s go!

Time Line

Activities

Today
Start !

By end of May
Requirement Analysis & Initial (MVP) Platform

Summer 2024
Expand network
Plan, coordinate and fund activities for the fall

Fall 2024
Hopefully: Submit Full Proposal
In parallel: Start Climate Action Projects

SSHRC Partnership Grant Proposal			
Stage 1 (LOI) Submitted February 10th, 2024	Notice whether we can proceed to Stage 2 June 2024	If selected: Stage 2 full proposal due October 2024	Notice of Award April 2025

DISCUSSION

What are time lines for results ?
(GHGE reduction)

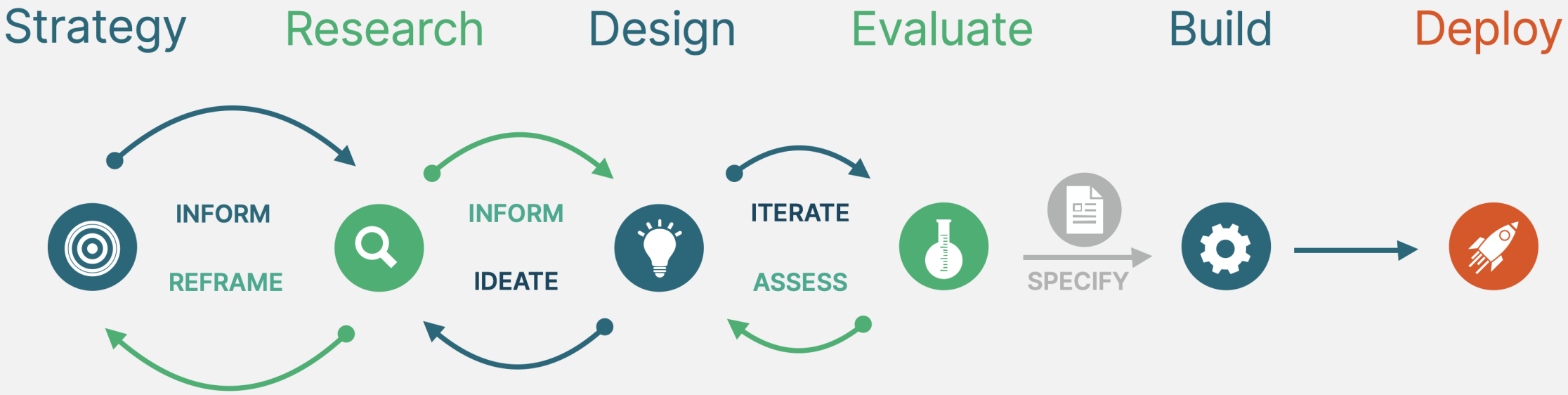
Can we / shall we set targets?
If yes: When ? How? Who?

Requirement Analysis & MVP

DFFRNT

Who else?
Ubuntoo, platform implementation

DFFRNT HCD Process



DFFRNT

DFFRNT PERSONA PROCESS

1. Conduct persona workshop

Internal stakeholders help us create the archetypes that will serve as the initial hypotheses of who the personas are.

2. Create draft personas

3. Validate draft personas

Qualitative and quantitative user research to understand goals, behaviour, context of use, preexisting knowledge, etc.

4. Recruit participants

5. Collect and analyze persona data

Potentially involves factor analysis if persona development is exploratory.

6. Conduct follow-up interviews

Personas are finalized through a second round of validation, with the end users that they represent and stakeholders who may be subject matter experts.

7. Prioritize primary and secondary personas

8. Present final personas

DFFRNT

HOW CAN YOU HELP?

WORKSHOP(S)	We will need volunteers for the stakeholder workshops.
PROTOCOLS	Let us know if you want to contribute to creating the screeners, survey or interview protocol.
PARTICIPANTS	Any representative end users who wish to participate in research or help with recruiting participants.

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DFFRNT

Summer Activities

Expand network

Plan, coordinate and fund activities for the fall

- Spread the word at Conference and Events
  - Do we want a list of events we are speaking at?
    (tried – perhaps best to have that be part of the initial platform?)
  - Do we need a slide deck to share?
    (what do you need?)
- Reach out to your networks
  - What materials do you need?
  - Volunteers to develop outreach strategy?
- Initial Projects
  - We need more detail both to start in the fall and for the proposal
  - How do we accelerate planning over the summer?
- Student Engagement
  - Climate anxiety needs to be addressed
- Fundraising
  - Most contributions are in-kind. We need some cash for students, coordination.

Discussion

DISCUSSION

What are time lines for results ?
(GHGE reduction)

Can we / shall we set targets?
If yes: When ? How? Who?

Required now

1. **User Needs Analysis / MVP Volunteers**
   most other activities will flow from this; next meeting
2. **Student Engagement Volunteers (Funding?)**
3. **Fundraising Committee**
4. **Governance Committee / Principles**
4. GHGE reduction target Committee ??
5. What else?

IT'S NOT TOO LATE TO JOIN !

Sign up through the Inclusive Innovation Hub

https://bit.ly/CanCoP

Or email
Prof. Sandra Schillo
schillo@telfer.uottawa.ca